



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
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August 6, 1996

HAND DELIVERED

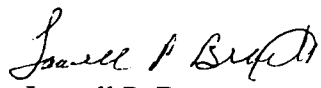
Allan R. Cerny, Secretary  
Western States Minerals Corporation  
4975 Van Gordon Street  
Wheat Ridge, Colorado 80033

Re: Transmittal of Revised Reclamation Surety Estimate, Western States Minerals Corporation, Drum Mine, M/027/007, Millard County, Utah

Dear Mr. Cerny:

Please find enclosed, a Division file memorandum dated August 6, 1996, along with underlying draft revised reclamation surety calculations. The revised surety estimate has been prepared for Western States Minerals Corporation's (WSMC) unreclaimed portion of the Drum Mine. We are providing this information, by hand delivery, as contemplated by our letter dated October 27, 1995, which denied your September 12, 1995, request for an immediate reduction in WSMC's reclamation surety.

Sincerely,

  
Lowell P. Braxton  
Deputy Director, Mining

jb  
Attachments  
wsmsur.trn



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August 6, 1996

TO: Lowell P. Braxton, Deputy Director

FROM: D. Wayne Hedberg, Permit Supervisor *DWH*

RE: Updated Reclamation Surety Estimate, Western States Minerals Corporation, Drum Mine, M/027/007, Millard County, Utah

In response to several written requests/demands from Western States Minerals Corporation (WSMC) for a release/reduction of their reclamation surety, the Division has prepared a *draft* revised surety estimate. The estimate has been tailored specifically to WSMC's remaining reclamation responsibilities at the Drum Mine (@41.52 disturbed acres). The reclamation estimate was prepared using computer software developed by the U.S. Bureau of Mines ("*HeapRec Program*") for calculating decommissioning and reclamation costs associated with closure of heap leach mining operations. This latest revised *draft* estimate is intended to replace the previous (6/26/95) *preliminary* draft (\$124,700) estimate as referenced in WSMC's September 12, 1995, and June 14, 1996, correspondence. As you will recall, the earlier (6/26/96) estimate was simply an escalation of the projected reclamation calculations prepared as part of WSMC's originally approved permit.

Because there are numerous *unknowns* regarding the present conditions of the heaps at the Drum Mine site, we had to make several assumptions. For example, because of the deteriorated condition of the plastic liners under the heaps and failure to permit the heaps, the Department of Environmental Health, Division of Water Quality (DWQ), will not allow the heaps to be rinsed and risk possible contamination of local water quality. Because we do not have hard data regarding the internal chemistry of the heaps (i.e., residual cyanide and metals concentrations), we must assume that a capping scenario for closure of the heap would be required. We also made assumptions regarding the actual dimensions (shape and height) of the heaps because we do not have site specific survey information or accurate maps of existing conditions. In order to get equipment on the heaps to apply and compact a clay cap, the out slopes of the heaps would need to be regraded to at least a 3H:1V slope angle. Because WSMC never successfully demonstrated that the heaps could be reclaimed without the application of topsoil, we assumed that one (1) foot of topsoil would be required on all regraded heap and waste rock dump surfaces to assure successful revegetation.

The resulting revised reclamation estimate, applying the standard 5 year escalation to year 200 dollars, totals \$746,000. This surety estimate is nearly three times higher than the amount of reclamation surety presently posted by WSMC (\$264,080). It is reasonable to assume that even under a *best case* scenario of heap leach pad conditions, it is very unlikely that the amount of surety necessary to decommission and reclaim WSMC's mine disturbances would be less than the present amount of surety. Until such time as the operator(s) is able to provide the Division with detailed information justifying a revision to the latest draft reclamation estimate (or Jumbo Mining Company posts full reclamation surety for the site), we would be ill-advised to consider a reduction or release of WSMC's \$264,080 reclamation surety.

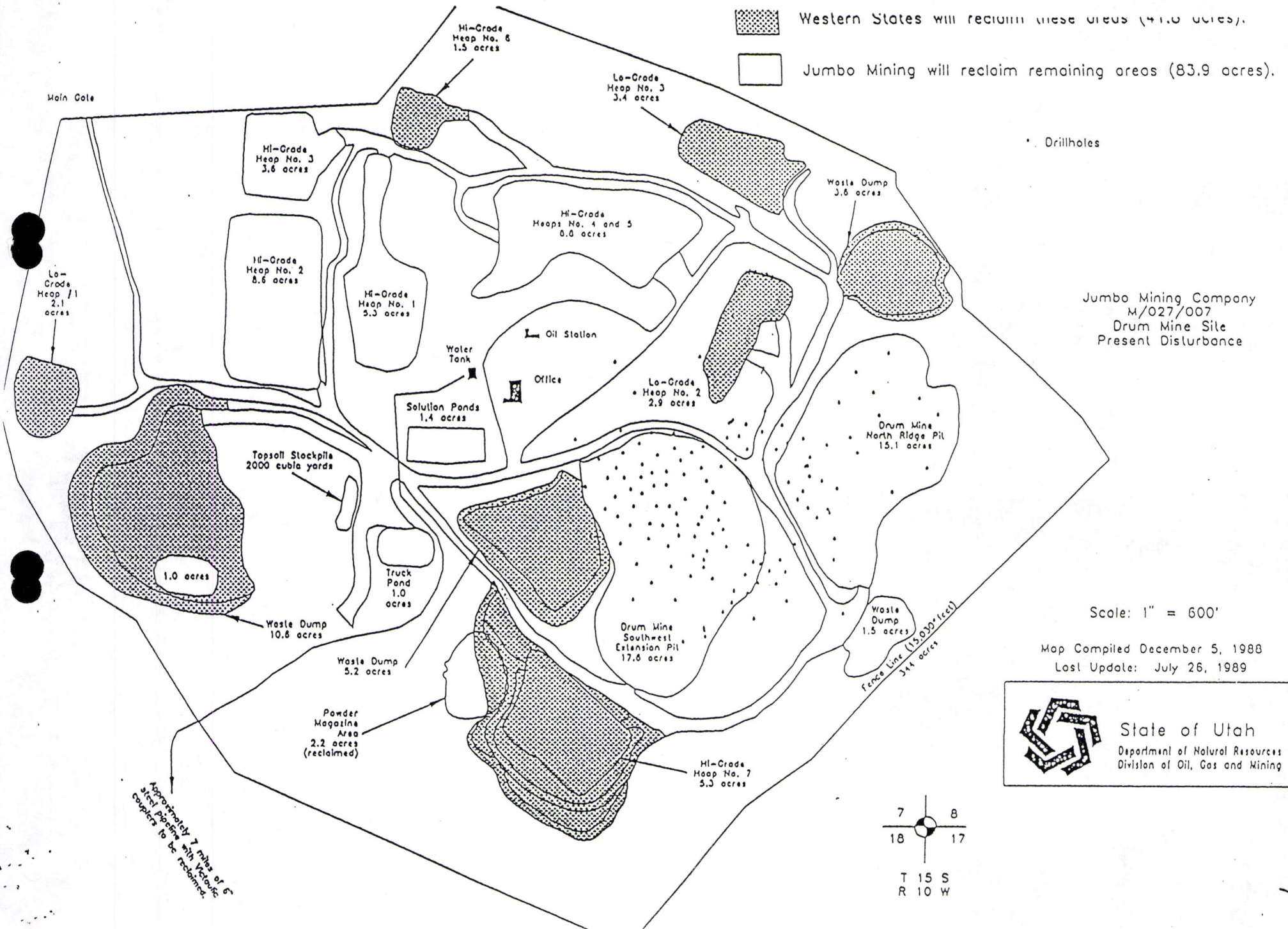
jb

Attachment - revised surety estimate  
wsmsur.mem

<b>RECLAMATION ESTIMATE</b>		<b>Western States Minerals Corp</b>		<b>DRAFT</b>	
Drum Mine [WSMC's portion of the site]		last revision 08/02/96			
M/027/007		Millard County		filename WSMC96A.WB2	
				page "estimate"	
Prepared by Utah State Division of Oil, Gas & Mining					
<b>This estimate is for assumed reclamation of WSMC's part of the Drum Mine site ONLY</b>					
-WSMC's Portion of Drum Mine (as listed on the DOGM map of July 26, 1989) includes: LG1, LG2, LG3, HG6, HG7, WASTE 10.6 acres, WASTE 3.6 acres, WASTE 5.2 acres -This estimate assumes heaps will be regraded to 3h:1v, capped, topsoiled 1 ft & revegetated -This estimate assumes dumps will be regraded to 3h:1v, topsoiled 1 ft & revegetated -This estimate assumes clay & rock are available as capping material within 1 mile of the site -No reclamation of facilities is included in this estimate -Areas & perimeter used in HeapRec for this estimate were from the July26, 1989 DOGM map -See separate sheets for HeapRec calculations as indicated by the notes -This is a rough estimate made without field verification of heap & dump heights -Regrading heaps & dumps was assumed to increase their footprint area by 20% -WSMC's total disturbance to be reclaimed = 41.52 acres					
<u>Description</u>	<u>Amount</u>	<u>\$/Unit</u>	<u>Cost-\$</u>	<u>Notes</u>	<u>heaprec</u>
Regrade heaps to 3h:1v			57,929	(1)	B260+C26
Capping heaps (clay 1 ft, rock 1.5 ft)			331,188	(1)	B758
Hauling topsoil on heaps(1 ft depth of cover)			29,692	(1)	C356
Spreading topsoil on tops (1/2 area)			2,441	(1)	C438
Spreading topsoil on slopes (1/2 area)			2,615	(1)	C460
Seed & mulch heaps	18.24 acres	275	5,016	(2)	
Regrade waste dumps to 3h:1v			103,680	(1)	B23+C23+
Hauling topsoil on heaps(1 ft depth of cover)			37,904	(1)	B356
Spreading topsoil on dump tops			3,113	(1)	B438
Spreading topsoil on dump slopes			3,263	(1)	B460
Seed & mulch dumps	23.28 acres	275	6,402	(2)	
Mobilization	6 equip	1000	6,000	(2)	
Supervision	30 days	250	7,500	(2)	
SUBTOTAL			596,741		
ADD 10% CONTINGENCY			59,674		
DOGM ADJUSTED TOTAL IN 1996 DOLLARS			\$656,415		
Escalate for 5 years at 2.58% per year			89,161		
Total			\$745,576		
<b>Rounded surety amount in yr 2001-\$</b>			<b><u>\$746,000</u></b>		
Average cost per acre =		\$17,967			
NOTES					
(1) This value calculated using the USBM HeapRec program					
(2) This value calculated by DOGM					



6-26-75



M/027/007 8/5/96

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 \* WELCOME TO HEAPREC - A TEMPLATE FOR HEAP LEACH \*  
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---DOZER - RECONTOUR HEAPS (1 of 1 page)---

	PAD 1	PAD 2	PAD 3	PAD 4
**HEAP CREST DISTAN	2520	1560	1080	3360 ft
**HEAP SLOPE ANGLE (	37	37	37	37 degrees
**RECLAIMED ANGLE (+)	18	18	18	18 degrees
**HEAP HEIGHT	60	60	60	60 ft
PCT GRADE FINAL	40	40	40	40 %
MATERIAL TO MOVE	73547	45529	31520	98062 cy
HAUL DISTANCE	87	87	87	87 ft
DOZER HORSEPOWER	370	370	370	370 hp
DOZER TYPE	D9N	D9N	D9N	D9N
OPERATING COST	\$223.35	\$223.35	\$223.35	\$223.35 per hr
LABOR COST	\$25.70	\$25.70	\$25.70	\$25.70 per hr
PRODUCTION	1337	1337	1337	1337 cy/hr
TOTAL TIME AT 80 PCT	68.8	42.6	29.5	91.7 hrs
DOZER-RECON HEAP C	\$17,135	\$10,610	\$7,347	\$22,838

NAME	AREA	EST. PERIMETER	HEAPREC ID
LG-1	2.1 ACRE	960'	PAD 1
LG-2	2.9 ACRE	1,560'	
LG-3	3.4 ACRE	1,560'	PAD 2
HG-6	1.5 ACRE	1,080'	PAD 3
HG-7	5.3 ACRE	3,360'	PAD 4

JOB EFFICIENCY FACTOR 83%

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\* WELCOME TO HEAPREC - A TEMPLATE FOR HEAP LEACH \*

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---CAPPING HEAP (1 of 7 pages)---

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**HAUL DISTANCE - CLAY	5280 ft
**ACRES TO CAP	18.24 ac
**CLAY LIFTS (6 IN EACH)	2
**DRAINAGE LAYER	1.5 ft
**HAUL DISTANCE - ROCK	2640 ft

CLAY THICKNESS	1 ft
CLAY VOLUME	29427 cyd
CRUSHED ROCK VOLUME	44141 cyd

TOTAL CAPPING COST \$331,188

---CAPPING HEAP, HAULING CLAY (2 of 7 pages)---

TRUCK TYPE	D30D	COST	\$53,288
CAPACITY	19.5 cy		
TRUCK SPEED	32 mph		
MANEUVER,DUMP TIME	2 min		
OPERATING COST	\$103.85 per hr		
LABOR COST	\$20.70 per hr		
LOADER TYPE	970F		
CAPACITY	4.25 cy		
LOAD,DUMP,MANEUVER TI	0.55 min		
OPERATING COST	\$92.15 per hr		
LABOR COST	\$25.70 per hr		
MATERIAL DENSITY	95 lb/cft		
BUCKETS TO FILL TRUCK	5 buckets		
LOADER TIME/TRUCK LOAD	2.75 min/truck		
NUMBER OF TRUCK LOADS	1510 loads		
TIME PER TRUCKLOAD	8.5 min		



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\* WELCOME TO HEAPREC - A TEMPLATE FOR HEAP LEACH \*

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OPTIMUM NUMBER OF TRU 4 trucks  
TIME PER TRUCK (80 PCT E 86.5 hrs/truck  
LOADER TIME AT 80 PCT EF 86.5 hrs  
---CAPPING HEAP, GRADING CLAY LAYER (3 of 7 pages)---

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DOZER TYPE D9N  
GRADED WIDTH 10 ft  
AVERAGE SPEED 1 mph  
AVERAGE PASS LENGTH 500 ft  
MANUEVER TIME 0.25 min  
OPERATING COST \$223.35 per hr  
LABOR COST \$25.70 per hr  
TRAVEL DISTANCE 79453 ft  
NUMBER OF PASSES 159 passes  
TOTAL TIME AT 80 PCT EFF 19.6 hrs

GRADING COST \$9,763

---CAPPING HEAP, CLAY COMPACTION WITH ROLLER (4 of 7 pages)---

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UNIT COST \$0.50 per cyd (range: \$0.35-0.50/cyd)  
(source: R-4, USFS, 1990)  
COMPACTING COST \$14,714

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\* WELCOME TO HEAPREC - A TEMPLATE FOR HEAP LEACH \*  
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---CAPPING HEAP, CRUSHING MINE-RUN WASTE ROCK (5 of 7 pages)---

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CRUSHING COST (SCREENE \$4.00 cyd source:R4-USFS, 1990

COST \$176,563

---CAPPING HEAP, HAULING CRUSHED ROCK (6 of 7 pages)---

TRUCK TYPE D30D COST \$63,748

CAPACITY 19.5 cy

TRUCK SPEED 32 mph

MANEUVER,DUMP TIME 2 min

OPERATING COST \$103.85 per hr

LABOR COST \$20.70 per hr

LOADER TYPE 970F

CAPACITY 4.25 cy

LOAD,DUMP,MANEUVER TI 0.55 min

OPERATING COST \$92.15 per hr



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\* WELCOME TO HEAPREC - A TEMPLATE FOR HEAP LEACH \*

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LABOR COST	\$25.70 per hr
MATERIAL DENSITY	95 lb/cft
BUCKETS TO FILL TRUCK	5 buckets
LOADER TIME/TRUCK LOAD	2.75 min/truck
NUMBER OF TRUCK LOADS	2264 loads
TIME PER TRUCKLOAD	6.6 min
OPTIMUM NUMBER OF TRU	3 trucks
TIME PER TRUCK (80 PCT E	129.7 hrs/truck
LOADER TIME AT 80 PCT EF	129.7 hrs
---CAPPING HEAP, GRADING CRUSHED ROCK LAYER (7 of 7 pages)---	

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DOZER TYPE	D9N
GRADED WIDTH	10 ft
AVERAGE SPEED	1 mph
AVERAGE PASS LENGTH	500 ft
MANUEVER TIME	0.25 min
OPERATING COST	\$223.35 per hr
LABOR COST	\$25.70 per hr
TRAVEL DISTANCE	79453 ft
NUMBER OF PASSES	159 passes
TOTAL TIME AT 80 PCT EFF	19.6 hrs

GRADING COST	\$13,112
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---SCRAPER - TOPSOIL APPLICATION (1 of 1 page)---

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	FACILITIE	HEAPS	ROADS	PONDS
**HAUL DISTANCE	2640	2640	0	0 ft
**ACRES	23.28	18.24	0	0 ac
**TOPSOIL DEPTH	1	1	0	0 ft
SCRAPER TYPE	627F	627F	627F	627F
CAPACITY	17	17	17	17 cy
OPERATING COST	\$120.42	\$120.42	\$120.42	\$120.42 per hr
LABOR COST	\$25.70	\$25.70	\$25.70	\$25.70 per hr
PRODUCTION	181	181	340	340 cy/hr
TOTAL TIME AT 80 PCT EFF	259.4	203.2	0	0 hrs
=====	=====	=====	=====	=====
SCRAPER-TOPSOIL APP CO	\$37,904	\$29,692	\$0	\$0

↑  
"FACILITIES"  
COLUMN IS  
FOR TOPSOILING  
DUMPS

M/027/007 8/5/96

---DOZER - GRADING LEVEL AREAS, TOPSOIL (1 of 1 page)---

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	FACILITIE	HEAPS	ROADS	PONDS
**ACREAGE	11.64	9.12	0	0 ac
DOZER TYPE	D9N	D9N	D9N	D9N
GRADED WIDTH	10	10	10	10 ft
AVERAGE SPEED	1	1	1	1 mph
AVERAGE PASS LENGTH	500	500	500	500 ft
MANUEVER TIME	0.25	0.25	0.25	0.25 min
OPERATING COST	\$223.35	\$223.35	\$223.35	\$223.35 per hr
LABOR COST	\$25.70	\$25.70	\$25.70	\$25.70 per hr
TRAVEL DISTANCE	50704	39727	0	0 ft
NUMBER OF PASSES	101	79	0	0 passes
TOTAL TIME AT 80 PCT EFF	12.5	9.8	0	0 hrs
DOZER-GRADE LEVEL COST	\$3,113	\$2,441	\$0	\$0

---DOZER - GRADING SLOPES, TOPSOIL (1 of 1 page)---

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	FACILITIE	HEAPS	ROADS	PONDS
**SLOPE LENGTH	240	180	0	0 ft
**SLOPE WIDTH	2113	2207	0	0 ft
SLOPE AREA	11.6	9.1	0	0 ac
DOZER TYPE	D9N	D9N	D9N	D9N
GRADED WIDTH	10	10	10	10 ft
AVERAGE SPEED	1	1	1	1 mph
AVERAGE PASS LENGTH	240	180	0	0 ft
MANUEVER TIME	0.25	0.25	0.25	0.25 min
OPERATING COST	\$223.35	\$223.35	\$223.35	\$223.35 per hr
LABOR COST	\$25.70	\$25.70	\$25.70	\$25.70 per hr
TRAVEL DISTANCE	50530	39640	0	0 ft
NUMBER OF PASSES	211	220	ERR	ERR passes
TOTAL TIME AT 80 PCT EFF	13.1	10.5	ERR	ERR hrs
DOZER-GRADE SLOPES CO	\$3,263	\$2,615	\$0	\$0

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"FACILITIES"  
COLUMN  
IS FOR GRADING DUMPS